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EXAMINER

DUNWOODY, AARON M

ART UNIT

PAPER NUMBER

3679

DATE MAILED: 06/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/720,744

Applicant(s)

BOSSCHER ET AL.

Examiner

Aaron M Dunwoody

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-15, 17-21, 24-26, 28, 30, 31 and 33-38 is/are rejected.
- 7) ☒ Claim(s) 16, 22, 23, 27, 29 and 32 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 10 March 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Drawings

The corrected or substitute drawings were received on 3/10/03. These drawings are approved.

Claim Objections

Claim 15 is objected to because of the following informalities:

Claim 15, line 1, change from "clamping element the" to "the clamping element".

Claim 20, line 2, change from "the ring halves" to "the clamping elements".

Claim 27 recites the limitation " the sputtering target " in line 3. There is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 13, 15, 17-20, 24-26, 28, 30, 31 and 33-38 are rejected under 35 U.S.C. 102(b) as being anticipated by US patent 2878041, Hobbs.

In regards to claim 13, Hobbs discloses a vacuum tight coupling for end portions of two tubular sections, a portion of the two tubular sections having an inner space (relative to the outer circumference of each tubular section), the size of the inner space of a first end portion (42) being smaller than that of a second end portion (41), the

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second end portion having a flange extremity axially slidable over the first end portion to abut the flange extremity against a peripheral outer abutment ring on the first end portion, the coupling comprising at least one sealing ring (43) located between the end portions in their overlapping contact area and further comprising a clamping ring (15) with a substantially cylindrical outer surface and being of composed clamping elements (col. 3, lines 21-23), each clamp having a semi-circular or U-shaped cross section with an inwardly oriented recess, the recess enclosing the flange extremity and the abutment ring, the recess cooperating with the flange extremities to positively, solidly and axially clamp the abutment ring against the flange extremity, the clamping elements being fixed to each other at their extremities with fixing means comprising in at least one place on the clamping ring bolting means, the axis of which is perpendicular to the longitudinal axis of the coupled tubular sections and substantially tangential to the clamping ring periphery.

In regards to claim 15, Hobbs discloses the clamping elements, besides the bolting means for fixing their extremities in one place comprising pivoting means for fixing them in their opposite extremities.

In regards to claim 17, Hobbs discloses the length of the overlap portion between the first and second tube portions being 50% or less of the inner diameter of the first portion.

In regards to claim 18, Hobbs discloses the length of the overlap portion between the first and second end portions being 5 % or more of the inner diameter of the first portion.

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In regards to claim 19, Hobbs discloses the coupling being a high vacuum or ultra-high vacuum coupling.

In regards to claim 20, Hobbs discloses a coupling for a cylindrical sputtering target for end portions of two tubular sections, a portion of the two tubular sections having an inner space, the size of the inner space of a first end portion being smaller than that of a second end portion, the second end portion having a flange extremity axially slidable over the first end portion to abut the flange extremity against a peripheral outer abutment ring on the first end portion, the coupling comprising at least one sealing ring between the end portions in their overlapping contact area and further comprising a clamping ring with a substantially cylindrical outer surface and being composed of clamp elements, each clamp element having a semi-circular or U-shaped cross section with an inwardly oriented recess, the recess enclosing the flange extremity and the abutment ring, the recess cooperating with the flange extremities to positively, solidly and axially clamp the abutment ring against the flange extremity, the clamp elements being fixed to each other at their extremities with fixing means comprising in at least one place on the clamping ring bolting means, the axis of which is perpendicular to the longitudinal axis of the coupled tubular sections and substantially tangential to the clamping ring periphery.

In regards to claim 24, Hobbs discloses the length of the overlap portion between the first and second tube portions being 50% or less of the inner diameter of the first portion.

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In regards to claim 25, Hobbs discloses the length of the overlap portion between the first and second end portions being 5 % or more of the inner diameter of the first portion.

In regards to claim 26, Hobbs discloses the coupling being a high vacuum or ultra-high vacuum coupling.

In regards to claim 28, Hobbs discloses an anti-arcing element (27).

In regards to claim 30, Hobbs the anti-arcing element being conductive or insulating.

In regards to claim 31, Hobbs discloses at least one groove being provided between the anti-arcing element and the clamping ring.

In regards to claims 33 and 35, Hobbs discloses the length of the overlap portion between the first and second tube portions being 30% or less of the inner diameter of the first portion.

In regards to claims 34 and 36, Hobbs discloses the length of the overlap portion between the first and second tube portions being 20% or less of the inner diameter of the first portion.

In regards to claims 37 and 38, Hobbs discloses the clamping elements being two substantially equal ring halves.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 14 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hobbs.

In regards to claims 14 and 21, Hobbs discloses the claimed invention except for the flange extremity being a separate ring. It would have been obvious to one having ordinary skill in the art at the time the invention was made to fabricate the flange extremity as a separate ring, since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Nerwin v. Erlichman*, 168 USPQ 177, 179.

Allowable Subject Matter

Claims 16, 22, 23, 27, 29 and 32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art of record does not disclose a vacuum wherein the first end portion comprising a tubular insert coupled between a tubular section and the second end portion, and wherein the insert end facing the tubular section is a ring which can slide

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axially over the tubular section whereas the opposite insert end is a ring over which the second end portion can slide.

Response to Arguments

Applicant's arguments with respect to claims 13-32 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure because it illustrates the current state of the art.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron M Dunwoody whose telephone number is (703)

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306-3436. The examiner can normally be reached on Monday - Friday between 7:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne H Browne can be reached on (703) 308-1159. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9327 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

.amd
June 2, 2003


Lynne H. Browne
Supervisory Patent Examiner
Technology Center 3670